D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

Center for Waste Minimization
"Helping companies improve environmental performance"

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WASTEWATER TREATMENT FACILITY

SELF OPERATION and MAINTENANCE EVALUATION SURVEY

(issue 6-9-05)

Facility Name:_____

GENERAL

Training

How many hours does your facility require annually per employee for continuing education programs that include environmental training?
6 or more = (0); 4-6 = (2); 0-4 = (4).

Financial

What portion of the revenues generated by your facility is used to support the wastewater treatment program?
60-100% = (0); 20-60% = (2); 0-20% = (4).

Do you have adequate funding to operate the WWTF for the foreseeable future?
YES = (0); NO = (6).

Do you budget for replacement equipment? YES = (0); NO = (2).

Do you have a plan to finance future expansion of your plant? YES = (0); NO = (2).

Pretreatment

Do you have industrial users of your WWTF? YES = (2); NO = (0).

If YES, do you issue permits defining the strength and flow of their discharge to your system?
YES = (0); NO = (6).

What fraction of your influent is contributed by the industries?
0-10% = (0); 11-25% = (2); 26-50% = (4); > 50% = (6).

Inflow and Infiltration

How many times per year has your daily flow exceeded twice the design daily flow?
0 = (0); 1-2 = (2); 3 or more = (4).

How many times in the past year have there been overflows at the WWTF?
0 = (0); 1 = (4); 2 or more = (8).

What is the length of your WWTF's collection system? _____ = A miles.
"A" divided by 100 = B (hundred miles of collection system).
How many overflows have occurred in this collection system during the past year? _____ = C.
Overflows per 100 miles = C divided by B = N.
If N = 0-3, then (0); if N = 4-10, then (2); if N = over 10, then (8).

Do you routinely smoke test, dye test, or televise the sewer system for leak detection?
YES = (0); NO = (2).

Preventive Maintenance

Are there written instructions that are followed for the operation of the WWTF?
YES = (0); NO = (6).

Are there written instructions that are followed for the maintenance (including preventive maintenance) of the WWTF? YES = (0); NO = (6).

Are there written instructions that are followed for the operation of the collection system of your facility? YES = (0); NO = (6).

Are there written instructions that are followed for the maintenance (including preventive maintenance) of the collection system of your facility? YES = (0); NO = (6).

Are permanent records of all operations and maintenance procedures maintained to enable future problems to be assessed and addressed optimally?
Yes = (0); No = (6).

Public Outreach

Is there some form of formal community outreach and public education at your WWTF?
YES = (0): NO = (10).

Total Points for General Section: _____.

Green Zone = 0-19; Yellow Zone = 20-46; Red Zone = 47-94.

PLANT-SPECIFIC

Staff

Do you meet permit requirements for certified operators?
YES = (0); NO = (10).

Is there appropriate coverage on-site at all times? YES = (0); NO = (5).

Impurity Reduction

Average influent TSS concentration = _____ PPM = A.
Average effluent TSS concentration = _____ PPM = B.
[(A-B)/A] X 100 = _____ %.
>95% = (0); 85-94% = (1); 80-84% = (2); 75-79% = (3); <75% = (5).

Average influent BOD concentration = _____ PPM = A.
Average effluent BOD concentration = _____ PPM = B.
[(A-B)/A] X 100 = _____ %.
>95% - (0); 85-94% = (1); 80-84% = (2); 75-79% = (3); <75% = (5).

Average influent COD concentration = _____ PPM = A.
Average effluent COD concentration = _____ PPM = B.
[(A-B)/A] X 100 = _____ %.
>95% = (0); 85-94% = (1); 80-84% = (2); 75-79% = (3); <75% = (5).

Effluent

How close is your WWTF average flow to the permitted flow?
Average flow = _____ gpd = A.
Permitted flow = _____ gpd = B.
A/B X 100 = _____ %.
<50% = (0); 51-60 % = (1); 61-70% = (2); 71-80% = (3); >80% = (5).

How close is your WWTF effluent average annual TSS concentration to the permitted TSS concentration?
<50% = (0); 51-60% = (1); 61-70% = (2); 71-80% = (3); 81-90% = (4); >90% = (5).

How close is your WWTF effluent average annual BOD concentration to the permitted BOD concentration?
<50% = (0); 51-60% = (1); 61-70% = (2); 71-80% = (3); 81-90% = (4); >90% = (5).

How close is your WWTF effluent average annual COD concentration to the permitted COD concentration?
<50% = (0); 51- 60% =(1); 61-70% = (2); 71-80% = (3); 81-90% = (4); >90% = (5).

Does your WWTF meet all the metal limits in the NPDES Permit?
N/A = (0); YES = (0); NO = (5).

Does your WWTF meet all the nutrient limits in the NPDES permit?
N/A = (0); YES = (0); NO = (5).

Sludge Handling

Does your WWTF have an established process control program for sludge acceptability?
YES = (0); NO = (10).

Can operators interpret the process control test results and make sound operational decisions based on these interpretations?
YES = (0); NO = (10).

Are test results from the process control program the basis of the sludge acceptability?
YES = (0); NO = (10).

Are there any bottlenecks in your sludge handling process?
YES = (1); NO = (0).

Please specify how the sludge generated by your WWTF is handled.

_____
_____
_____

How long can you continue to handle the sludge in this manner, given your current funding sources?
36 months or more = (0), 24-35 months = (1), 12-23 months = (2), 6-11 months = (3), 3-5 months = (4), <3 months = (5).

How often is the sludge analyzed for metals concentration?
Every 6 months or less = (0); 7-12 months = (2); > 12 months = (4).

Have beneficial uses for the sludge generated by your WWTF been considered?
YES = (0); NO = (2).

Groundwater monitoring

Does your WWTF have an unlined lagoon?
YES = (7); NO = (0).

If YES, does your WWTF monitor groundwater?
YES = (0); NO = (7).

Plant By-Passes

Is your WWTF capable of a complete by-pass?
YES = (7); NO = (0).

Operation Strategy

If your WWTF is not manned 24 hours per day, 7 days per week, is there equipment to notify staff of the following plant problems?

_____ Low pH.
_____ Power Failure.
_____ Low/High Water Level.
_____ Monitoring Equipment Failure.

If number of choices selected is:

0 = (4).
1 = (3).
2 = (2).
3 = (1).
4 = (0)

Facility Age

How long has it been since the last major up-grade of your WWTF?
0-5 yrs. = (0); 6-19 yrs. = (5); 20 or more yrs. = (10).

Compliance

Has your facility been in Significant Non-Compliance during the past two years?
YES = (10); NO = (0).

Total Points for Plant-Specific Section: _____.
Green Zone: 0-30; Yellow Zone: 31-73: Red Zone: 74-147.

GRADING SYSTEM

Point Summation Page

General System	No. of Questions	Zones Green	Yellow	Red	Actual Values
Training	1	0	2	4	_____
Financial	4	0-2	3-6	7-14	_____
Pretreatment	3	0-3	4-6	7-14	_____
Inflow/Infiltration	4	0-4	5-10	11-22	_____
Maintenance	5	0-6	7-14	15-30	_____
Public Outreach	1	0		10	_____
Sub-Total					_____
Plant-Specific					
Staff	2	0	5	10-15	_____
Impurity Reduction	3	0-3	4-7	8-15	_____
Effluent	6	0-6	7-14	15-30	_____
Sludge Handling	7	0-8	9-20	21-42	_____
Ground Water Monitoring	2	0	7	14	_____
Plant By-Pass	1	0		7	_____
Operation	1	0-1	2	3-4	_____
Age	1	0	5	10	_____
Compliance	1	0		10	_____
Sub-Total					_____
FORM TOTAL					_____

General System	
0-19	Green Zone
20-46	Yellow Zone
47-94	Red Zone
Plant-Specific	
0-30	Green Zone
31-73	Yellow Zone
74-147	Red Zone
Entire Form	
0-48	Green Zone
49-120	Yellow Zone
121-241	Red Zone

ZONE DESCRIPTIONS

Green Zone, up to 20% of total points: The overall section/system is healthy; however, there may be particular questions scoring in the yellow or red zone and should receive closer review.

Yellow Zone, between 20 and 50% of the total points: One or more sections scored high (or a combination of mid-range to higher scores). These areas should receive greater emphasis. There may be particular questions scoring in the red zone which should receive prompt attention.

Red Zone, between 50 and 100% of the total points: One or more sections scored high (or a combination of higher scores) and have placed your system in what can be considered to be in danger of being in non-compliance. Identified areas should be addressed promptly.

This survey is for the benefit of the facility completing it and not to be used as a source of regulatory information. Completing this survey does not assure compliance with environmental regulations and does not preclude enforcement actions as a result of inspections performed independently of this survey.